Kolak, Shari

From: Leo Brausch <Lbrausch@brauschenv.com>
Sent: Monday, February 22, 2016 11 29 AM
To: Kolak, Shari
Subject: RE LCCS -- Proposed Locations and Screened Intervals for Groundwater Monitoring Wells

Thanks.

Leo M. Brausch
Office: (704) 246-7266
Cell: (412) 720-8549
Fax: (980) 339-3017

From: Kolak, Shari [mailto:kolak.shari@epa.gov]
Sent: Monday, February 22, 2016 12:28 PM
To: Leo Brausch <Lbrausch@brauschenv.com>
Subject: RE· LCCS -- Proposed Locations and Screened Intervals for Groundwater Monitoring Wells

Hi Leo,

Paul and I are good with the proposed monitoring well locations. Thanks for considering and incorporating our comments. Shari

From: Leo Brausch [mailto.Lbrausch@brauschenv.com]
Sent: Wednesday, February 17, 2016 11:26 AM
To: Kolak, Shari <kolak.shari@epa.gov>
Cc: Gahala, Amy <Gahala.Amy@epa gov>; Kathryn Higbee <khigbee@brauschenv.com>; Darby, Thomas <Thomas.Darby@arcadis-us.com>; Pennington, Andy <Andy.Pennington@arcadis.com>; Gates, Ellyn <Ellyn Gates@arcadis-us.com>; 'Franzetti, Susan M.' <sf@nijmanfranzetti.com>; paul.lake@illinois.gov; Bird, Kenneth J. <kbird@woodardcurran com>; Bussa, Brian J. <bbussa@ford com>; Forney, James <jforney@wm com>; Gerdenich, Michael <michael.gerdenich@basf com>; Jacob Larsen <jacob.larsen@dupont com>; Karen Burke@mallinckrodt.com; Kovatch, Matthew A <Matt.Kovatch@abbvie.com>; Michols, Curtis R. <curtis.michols@abbott.com>; Montney, Paul <pamontne@gapac.com>; Petersen, Daniel W. <daniel.petersen@erm com>; Rinard, David <drinard@steelcase.com>; Stipe, Rod <RStipe@wm com>; Vondracek, James E. <jevondracek@ashland.com>
Subject: LCCS -- Proposed Locations and Screened Intervals for Groundwater Monitoring Wells

Shari,

As a follow-up to the discussions with USEPA and IEPA during our February 11, 2016 conference call to discuss the results of the Lake Calumet Cluster Site (LCCS) Phase 2 investigations results and the Phase 3 monitoring well installation plan, we have prepared the attached figure showing the locations of the proposed monitoring wells. The table below lists the proposed screened intervals and the rationale for the identified intervals. In selecting the screened interval for each of the proposed monitoring wells, we have attempted to respond to USEPA's request that the well screen for each well intersect the depth interval where the vertical aquifer profile sample showed the highest COPC concentrations.

Well I.D.	Proposed Total Depth (ft bgs)	Proposed Screened Interval (ft bgs)	Rationale for Screen Placement
MW-01	20	10 - 20	Highest benzene 14 - 16 ft bgs, screen installed to bracket the highest interval.

MW-02	22	12 - 22	Highest benzene 13 - 16 ft bgs, ammonia 18 - 21 ft bg screen installed to span both elevated sample interva
MW-03	19	9 - 19	Highest benzene and ammonia 17 - 19 ft bgs, screen installed to the top of the clay to bracket highest interval.
MW-04	16	6 - 16	Highest benzene at 6 - 9 and 10 - 13 ft bgs, screened from the water table across the highest intervals
MW-05	20	10 - 20	Highest benzene 14 - 17 ft bgs, top of clay at 20 ft bgs. Screen installed to top of clay to bracket highes interval.
MW-06	22	12 - 22	Highest ammonia 16 - 18 ft bgs, screen installed to bracket the highest interval.
MW-07	22	12 - 22	Highest ammonia 13 - 16 and 19 - 22 ft bgs, screen installed to bracket highest intervals.
MW-08	23	13 - 23	Highest ammonia in HPT-14 at 14 - 17 and 20 - 22 ft b screen installed to bracket highest intervals. Offset v to cover southern component of flow
MW-09	16	6 - 16	Screened across the entire permeable zone identifiec HPT data.
MW-10	14	4 - 14	Screened across the entire permeable zone identifiec HPT data.
MW-11	22	12 - 22	Highest benzene 19 - 22 ft bgs, screened to bracket t highest intervals and avoid lower permeability unit starting at 22 ft bgs.
MW-12	23	13 - 23	Lower permeability compared to other locations, but HPT log indicates transmissive zones from 7 to 22 ft bgs. Screen selected to bracket the highest permeab zones
MW-13	21	11 - 21	Highest benzene at 14 - 16 and 18 - 21 ft bgs. Screen selected to bracket highest intervals and highest permeability zones.

Notes:
HPT - Hydraulic Profiling Tool
MW - Monitoring Well
bgs - below ground surface

Please do not hesitate to contact me if you have questions regarding the proposed well locations or recommended screened intervals Weather permitting, Arcadis is planning to mobilize to the LCCS on March 7, 2016 to begin well installation. Thanks.

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